

REMARKS/ARGUMENTS

Claims 1, 2 and 4-9 are pending herein. Claims 7-8 have been withdrawn in view of the election to prosecute claims 1-6 and 9 of Group I. Claim 3 has been cancelled in favor of rewritten claim 1, and claims 4-6 have been amended to correct matters of form only. Applicants respectfully submit that no new matter has been added.

Examiner Bolden is thanked for the courtesies extended to Applicants' undersigned representative during a telephonic interview on January 29, 2007, the substance of which is incorporated below.

1. The §112, second paragraph rejection of claims 1 and 3-6 is noted, but deemed moot in view of rewritten independent claim 1 and for at least the reasons explained below.

Independent claim 1 has been rewritten to include a Seger proportion range for CaO, as supported by the present specification, and to recite the features of claim 3. Applicants respectfully submit that pages 5-6 of the present specification explain that the amounts of the compositional components in the Seger formula are properly expressed in terms of their relative proportions, not necessarily with respect to weight % or mol %. Applicants' representative explained this point during the telephonic interview, and Examiner Bolden agreed.

For at least the foregoing reasons, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

2. Claims 1-6 and 9 were rejected under §103(a) over Higuchi in view of Parmelee's Ceramic Glazes article, pages 274-277 and 426-427. Applicants respectfully traverse this rejection.

Independent claim 1 recites a semiconductive glaze product comprising a glaze composition including a KNaO-MgO-CaO-Al₂O₃-SiO₂-based base glaze and a metal oxide composition including tin oxide and antimony oxide, wherein relative

compositional proportions of the base glaze, as represented by the Seger formula of basic components, include KNaO in a range of 0.1 to 0.4, MgO in a range of 0.2 to 0.6, CaO in a range of 0.2 to 0.7, Al₂O₃ in a range of 0.5 to 0.9 and SiO₂ in a range of 4 to 7, and a flux in an amount of 10 parts by weight or less based on 100 parts by weight of the glaze composition.

The PTO asserted that Higuchi's semiconductive glaze compositions anticipate or overlap the claimed compositions, citing to Column 5, lines 7-18 and Examples 1b, 1c, 2e and 3g in Table 1 of Higuchi. Applicants respectfully disagree, however, because as the PTO admitted, Higuchi does not disclose or suggest that a flux is used in addition to SnO₂, Sb₂O₃ and the KNaO-MgO-CaO-Al₂O₃-SiO₂ base glaze in the glaze composition.

In an attempt to overcome the admitted deficiency of Higuchi, the PTO applied the Ceramic Glazes excerpts. Based on the Ceramic Glazes excerpts, the PTO asserted that B₂O₃ is a known flux, and that it is known to use frits or fluxes in glaze compositions for certain applications. In addition, the PTO asserted that the Ceramic Glazes excerpts teach that controlling the overall composition in conjunction with the frit or flux amount can provide improved homogeneity and flow properties for certain glazes in certain applications.

Applicants respectfully submit, however, that merely knowing of the existence and use of fluxes, and that B₂O₃ is an example of a flux based on the Ceramic Glazes excerpts, would not have been sufficient to have motivated one skilled in the art to add any specific flux to the particular semiconductive glazes in Higuchi, much less B₂O₃. In addition, Applicants respectfully submit that the Ceramic Glazes excerpts do not teach anything about the specific electrical properties of glaze compositions, much less that adding a frit (or any particular flux) would, or even could in any way positively affect or provide any specific benefits with respect to the electrical properties of a glaze or an article coated with that glaze. That is, Applicants respectfully submit that the Ceramic Glazes excerpts simply do not disclose or even suggest that any benefits would be provided to semiconductive glaze compositions

like Higuchi's, in the particular context of controlling and improving the electrical properties of the insulator.

Applicants respectfully submit that Higuchi provides a solution for the relevant problems recognized by Higuchi, which include providing tin oxide and antimony oxide in the glaze composition, and controlling the thickness of the glaze layer on the insulator. In the context of providing the critical electrical characteristics and desired glaze thicknesses disclosed in Higuchi, Applicants respectfully submit that one skilled in the art would have actually wanted to avoid adding an additional component, particularly a flux, that would purposely alter the firing characteristics and flow behaviors of the glaze (i.e., cause the glaze components to melt and flow at a lower temperature) and therefore alter the resulting glaze layer thickness. In view of the above, during the telephonic interview, Applicants' representative argued that one skilled in the art simply would not have been motivated to add a flux to any of Higuchi's glaze compositions whatsoever, and that such a skilled artisan would not have had any reasonable expectation that adding a flux to Higuchi's composition could instead be somehow beneficial in the context of the objectives and teachings of Higuchi in the first place. Examiner Bolden tentatively agreed that the above arguments would overcome the rejections of record.

For at least the foregoing reasons, Applicants respectfully submit that one skilled in the art would not have been motivated to combine the applied references in the manner suggested in the Office Action. Moreover, Applicants respectfully submit that the applied references do not disclose or suggest each and every feature recited in independent claim 1, and that all claims pending herein define patentable subject matter over the art of record. Accordingly, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

If Examiner Bolden believes that further contact with Applicants' attorney would be advantageous toward the disposition of this case, she is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

February 8, 2007

Date



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